

U.S. Serial No. 09/622,299  
Attorney Docket No.: HES 2 0001

### THE OFFICE ACTION

In the Office Action mailed December 10, 2002, the Examiner rejected claims 12-30 of the present application. The Examiner rejected claims 12, 15-18, 26 and 28-30 under 35 U.S.C. §102(a) as being anticipated by U.S. Patent 6,228,904 to Yadav et al. ("Yadav"). The Examiner also rejected claims 14 and 27 under 35 U.S.C. §103(a) as being unpatentable over Yadav. The Examiner further rejected claims 12-26 and 28-30 under 35 U.S.C. §112, first paragraph, as being nonenabling for the use of surfactants in the manufacture of the nanomaterial particles. The Examiner indicated that claims 13 and 19-25 contain allowable subject matter and would be allowed if rewritten to overcome the §112 rejection and to include all the limitations of the base claims.

### REMARKS

The Office Action mailed December 10, 2002 has been given careful consideration by the Applicants. Reconsideration of the application is hereby respectfully requested in view of the above amendments and the following comments. Claims 13-27 and 29-30 remain pending in the application.

*not as  
precursor  
for  
nanoparticles*

The Examiner rejected claims 12-26 and 28-30 under 35 U.S.C. §112, first paragraph, because the specification was allegedly nonenabling for the use of surfactants as a precursor in the production of the nanomaterial particles. In this respect, the Examiner stated that "... the disclosure of this application provides no enablement as to preparing nanoparticles of surfactants. . ." (pages 3 and 4). Applicants respectfully traverse and submit that the present specification provides sufficient disclosure for use of surfactants in the preparation of the nanomaterial particles. In this respect, Examiner is directed to page 4 of the specification, which notes that the nanomaterial particles are synthesized from suitable precursors including surfactants. In addition, the Examiner is directed to paragraphs 2 and 3 on page 5

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which state that suitable surfactants include, for example, quaternary ammonium salts, including those that are commercially available, such as trioctylmethyl ammonium chloride (aliquat 336). Finally, the Examiner is directed to Examples 1-3 which use the surfactants aliquat 336, poly-ethoxyethylene-10-oleyl ether and didodecylammonium bromide, respectively, in the production of the nanomaterial particles. Thus, Applicants submit that the specification provides adequate enablement for the use of surfactants in the preparation of these nanomaterial particles. Withdrawal of the rejection is respectfully requested.

Claim 27 and the specification on page 5 have been amended to substitute the terms "tetraethoxy silane" and "tetramethoxy silane" for the terms "triethoxy silane" and "trimethoxy silane". Applicants submit that this amendment does not introduce new matter, nor change the scope of the invention. It simply corrects a typographical error present in the original application. Likewise, claim 27 was also amended to substitute the term "oxychloride" for the term "oxycholoride".

W  
nan. fragm  
water  
only if  
V2 per  
reference  
With respect to the Examiner's §102 and §103 rejections, Applicants submit that the amended claims patentably define over the art of record. In this respect, the Examiner has already indicated that claim 13 contains allowable subject matter. Claim 13 was written in independent form and was made the base claim from which the dependent claims ultimately depend. Since dependent claims contain all the recitations recited in the base claim from which they depend, claims 14-27 and 29-30 should also be allowable over Yadav. Thus, Applicants request the Examiner withdraw his §102 and §103 rejections.

### CONCLUSION

Applicants respectfully request reconsideration of the application in light of the above amendments and comments. Applicants submit that all pending claims are patentable over the art of record. If there are any issues remaining, the Examiner is encouraged to contact the undersigned in an attempt to resolve any such issues.

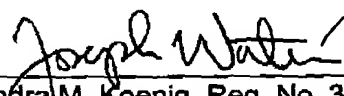
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If any fee is due in conjunction with the filing of this Response, Applicants authorize deduction of that fee from Deposit Account 06-0308.

Respectfully submitted,

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